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AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
4, 7TH MAIN MALLESWARAM, BANGALORE -3

Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2019-05-23-58** **Date: 28-02-2019**
Customer	:	Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
Address	:	Shettyhalli Sub Division, BBMP, Bangalore.
Project Name	:	Construction of General Public Toilet in Mallasandra Colony School in Ward No.13 Shettyhalli Sub Division.
Agency	:	Sri.Muniraj Naik, #58 Rayan Nagara, Nelamanaga, Bangalore-562123.
Customer's Reference	:	EE/DD/WO/340/18-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	25-02-2019
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	26-02-2019
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	1.95	–
2	Finess by Air permeablity method (m^2/kg,Min)	285.4	225m^2/kg, Min
3	Density (gm/cc)	3.12	–
4	Standard Consistency (%)	29.5%	Not specified
5	Initial Setting time	145 minutes	Not less than 30 minutes
6	Final Setting time	240 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

Note:

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Samples will be disposed after 90 days from the date of issue of test certificate

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

CIVIL PRO BANGALORE Sig..... Date.....

****End of Report****

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Date: 26-03-2019

Lab ID	:	CP-2019-05-23-58
Customer	:	Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
Address	:	Shettyhalli Sub Division, BBMP, Bangalore.
Project Name	:	Construction of General Public Toilet in Mallasandra Colony School in Ward No.13 Shettyhalli Sub Division.
Agency	:	Sri.Muniraj Naik, #58 Rayan Nagara, Nelamanaga, Bangalore-562123.
Customer's Reference	:	EE/DD/WO/340/18-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	25-02-2019
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	26-02-2019
Environmental Conditions during test	:	Temperature: 26˚C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	58.5N/mm^2	Not less than 53 N/mm^2

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TEST REPORT ON PHYSICAL REQUIREMENTS OF SOLID CONCRETE BLOCKS

Lab ID	:	CP-2019-05-23-58 **Date: 15-04-2019**
Customer	:	Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
Address	:	Shettyhalli Sub Division, BBMP, Bangalore.
Project Name	:	Construction of General Public Toilet in Mallasandra Colony School in Ward No.13 Shettyhalli Sub Division.
Agency	:	Sri.Muniraj Naik, #58 Rayan Nagara, Nelamanaga, Bangalore-562123.
Customer's Reference	:	EE/DD/WO/340/18-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	12-04-2019
Sample Type/Size	:	Solid concrete blocks size (400X150X200)mm
Reference to BIS codes	:	IS : 2185 (Part 1) : 2005(RA 2010) Concrete Masonry Specification Part 1:Hollow and Solid Concrete Blocks (Dimensions -Annex-B, Clause 9.2 and 10 , Block density Annex -C Clause 9.3 and10, Compressive strength Annex -D Clause 9.4 and 10, Water absorption Annex -E Clause 9.5 and 10)
Date of test	:	12-04-2019

BLOCK DENSITY:

Sl. No.	Measurement of overall Dimensions of Individual Blocks			Overall Volume of the Block in Cubic Centimetres	Weight of Oven Dried Block in Kilograms to the nearest 10 Gram	Block Density in Kg/cum*10^6	Avg.Block Density in (Kg/cum)	As per IS 2185(Part 1) :2005 (RA 2010)
	Length	Breadth	Height					
	mm	mm	mm	(Cm^3)	Kg	Kg/m^3	Kg/m^3	
1	399	151	198	11929	33.135	2777.6	2704.5	Not less than 1800Kg/m^3
2	403	152	200	12251	32.180	2626.7		
3	404	151	202	12323	33.386	2709.3		

WATER ABSORPTION:

Sl. No.	Wet weight after water absorption	Dry weight (Oven dry)	Water Absorption	Avg.Water Absorption	As per IS 2185(Part 1):2005 (RA 2010)
	kg	kg	%	%	
1	33.91	32.25	4.89	4.25	Shall not be more than 10% by mass
2	33.57	32.14	4.28		
3	33.44	32.24	3.59		

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Lab ID : CP-2019-05-23-58 Date: 15-04-2019

DIMENSION ANALYSIS

Sl.no	Length mm	Breadth mm	Height mm	Requirement as per IS 2185(Part 1):2005
1	400	151	201	Length : ± 5mm Breadth : ± 3mm Height : ± 3mm
2	400	150	199	
3	401	152	201	
4	404	151	199	
5	403	152	201	
6	400	153	201	
7	401	152	203	
8	399	152	199	
9	400	150	203	
10	399	153	202	
11	403	150	202	
12	401	152	201	
13	404	154	202	
14	404	151	202	
15	403	150	200	
16	403	151	202	
17	403	152	203	
18	403	150	202	
19	401	151	200	
20	400	152	202	
Average of 20	402	151	201	

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: CP-2019-05-23-58

Date: 15-04-2019

RESSIVE STRENGTH:

	Size of solid block		Area	Failure Load	Compressive strength	Average Compressive strength
	Length	Breadth				
	mm	mm	(mm^2)	(KN)	N/mm^2	(N/mm^2)
	400	151	60443	240.8	4.0	
	400	150	60037	252.6	4.2	
2	401	152	61011	263.8	4.3	
3	404	151	60982	258.4	4.2	4.7
4	403	152	61275	234.8	3.8	
5	400	153	61124	365.2	6.0	
6	401	152	60917	278.2	4.6	
7	399	152	60709	372.5	6.1	
8						

As per IS Requirements (Table 2, Clause 5.1, 5.2 and 9.4)

Compressive strength		
Grade	Minimum average	Minimum Individual units.
C (5.0)	5.00 N/mm^2	4.00 N/mm^2
C (4.0)	4.00 N/mm^2	3.20 N/mm^2

Note:
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Quality Manager

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Format No: CP/TF/01

TEST REPORT ON PHYSICAL REQUIREMENTS OF SOLID CONCRETE BLOCKS

Lab ID	:	CP-2019-05-23-58 Date: 16-03-2019
Customer	:	Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
Address	:	Shettyhalli Sub Division, BBMP, Bangalore.
Project Name	:	Construction of General Public Toilet in Mallasandra Colony School in Ward No.13 Shettyhalli Sub Division.
Agency	:	Sri.Muniraj Naik, #58 Rayan Nagara, Nelamanaga, Bangalore-562123.
Customer's Reference	:	EE/DD/WO/340/18-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	13-03-2019
Sample Type/Size	:	Solid concrete blocks size (400X200X200)mm
Reference to BIS codes	:	IS : 2185 (Part 1) : 2005(RA 2010) Concrete Masonry Specification Part 1:Hollow and Solid Concrete Blocks (Dimensions -Annex-B, Clause 9.2 and 10 , Block density Annex -C Clause 9.3 and10, Compressive strength Annex -D Clause 9.4 and 10, Water absorption Annex -E Clause 9.5 and 10)
Date of test	:	13-03-2019

BLOCK DENSITY:

Sl. No.	Measurement of overall Dimensions of Individual Blocks			Overall Volume of the Block in Cubic Centimetres	Weight of Oven Dried Block in Kilograms to the nearest 10 Gram	Block Density in Kg/cum*10^6	Avg.Block Density in (Kg/cum)	As per IS 2185(Part 1) :2005 (RA 2010)
	Length	Breadth	Height					
	mm	mm	mm	(Cm^3)	Kg	Kg/m^3	Kg/m^3	
1	404	203	200	16402	32.190	1962.5	2038.8	Not less than 1800Kg/m^3
2	398	198	199	15682	33.317	2124.5		
3	400	203	203	16484	33.452	2029.4		

WATER ABSORPTION:

Sl. No.	Wet weight after water absorption	Dry weight (Oven dry)	Water Absorption	Avg.Water Absorption	As per IS 2185(Part 1):2005 (RA 2010)
	kg	kg	%	%	
1	33.91	32.22	4.99	4.35	Shall not be more than 10% by mass
2	33.57	32.10	4.38		
3	33.44	32.21	3.69		

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Lab ID : CP-2019-05-23-58 Date: 16-03-2019

DIMENSION ANALYSIS

Sl.no	Length mm	Breadth mm	Height mm	Requirement as per IS 2185(Part 1):2005
1	403	201	202	
2	401	199	202	
3	401	202	199	
4	400	199	203	
5	401	203	202	
6	402	201	203	
7	400	201	201	
8	401	200	200	
9	400	199	202	
10	399	200	200	
11	402	201	203	Length : ± 5mm Breadth : ± 3mm Height : ± 3mm
12	401	201	202	
13	399	202	202	
14	399	199	200	
15	401	200	202	
16	400	201	202	
17	403	199	199	
18	403	200	200	
19	401	200	202	
20	402	202	201	
Average of 20	401	201	201	

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Lab ID : **CP-2019-05-23-58** **Date: 16-03-2019**

COMPRESSIVE STRENGTH:

Sl. No.	Size of solid block		Area	Failure Load	Compressive strength	Average Compressive strength
	Length	Breadth				
	mm	mm	(mm^2)	(KN)	N/mm^2	(N/mm^2)
1	403	201	81031	381.4	4.7	4.7
2	401	199	79834	381.7	4.8	
3	401	202	80972	381.1	4.7	
4	400	199	79861	352.7	4.4	
5	401	203	81280	372.0	4.6	
6	402	201	80769	381.8	4.7	
7	400	201	80523	360.8	4.5	
8	401	200	80387	388.8	4.8	

As per IS Requirements (Table 2, Clause 5.1, 5.2 and 9.4)

Compressive strength		
Grade	**Minimum average**	**Minimum Individual units.**
C (5.0)	5.00 N/mm^2	4.00 N/mm^2
C (4.0)	4.00 N/mm^2	3.20 N/mm^2

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